03060103-070

(Rocky River/Lake Secession/Lake Russell)

General Description

Watershed 03060103-070 is located in Anderson and Abbeville Counties and consists primarily of the ***Rocky River*** and its tributaries as it flows through ***Lake Secession*** and into ***Lake Richard B. Russell***. The watershed occupies 153,371 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Cecil-Hiwassee-Davidson series. The erodibility of the soil (K) averages 0.26, and the slope of the terrain averages 10%, with a range of 2-15%. Land use/land cover in the watershed includes: 57.3% forested land, 28.4% agricultural land, 7.3% urban land, 4.1% water, 2.2% barren land, and 0.7% forested wetland.

Beaverdam Creek (Anderson Reservoir) and Little Beaverdam Creek join to form the Rocky River. Downstream from the confluence, the river accepts drainage from Cox Creek (Bailey Creek) and Broadway Creek. Watermelon Creek (Rock Creek) and Browns Creek join to form Broadway Creek, which accepts drainage from Cupboard Creek, Pea Creek, Neals Creek, and Broadway Lake before discharging into the Rocky River. Beaver Creek (Betsy Creek, Nesbit Creek, Tugaloo Creek) enters the river next, followed by Hencoop Creek (Cherokee Creek, Long Branch), Bear Creek, and Governors Creek. The Rocky River then impounds into Lake Secession and accepts drainage from First Creek. Downstream of the Lake Secession Dam, the Rocky River accepts drainage from the Wilson Creek Watershed, Long Branch, and Charlies Creek before draining into Lake Russell. There are a total of 263.3 stream miles and 7,934.1 acres of lake waters within the South Carolina portion of the watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
SV-031	P	FW	Rocky River at S-04-263, 2.7 mi SE Anderson at STP
SV-041	S	FW	Rocky River at S-04-152 below Rocky River STP
SV-139	S	FW	Cupboard Ck at S-04-733above Breazeale St Plt & below Blair Hill
SV-140	S	FW	Cupboard Ck at S-04-209 below effluent from Belton 2 plant
SV-141	S/BIO	FW	Broadway Creek at US 76 between Anderson & Belton
SV-319	W	FW	Broadway Lake, Broadway Creek arm upstream of public access
SV-258	W	FW	Broadway Lake, Neals Creek arm ½ between banks at golf course
SV-321	W	FW	Broadway Lake forebay, ½ between spillway and opposite land
SV-346	W	FW	Rocky River at S-04-244
SV-037	S	FW	Betsy Creek at S-04-259 below fiberglas outfall
SV-650	BIO	FW	Rocky River at SC 413
SV-043	S	FW	Cherokee Creek at S-04-318, 4 mi S of Belton
SV-044	BIO	FW	Hencoop Creek at S-04-244
SV-331	P	FW	Lake Secession, 1¼ mi below SC 28
SV-332	P	FW	Lake Secession approx. 400 yds above dam
SV-357	W	FW	Lake Russell, Rocky River arm between markers 48 & 49

Cupboard Creek – There are two stations along Cupboard Creek. Aquatic life uses are not supported at the upstream site ***(SV-139)*** due to dissolved oxygen excursions. There is also a significant decreasing

trend in pH and a significant increasing trend in turbidity. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions.

At the downstream site ***(SV-140),*** aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration and significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria concentrations.

Broadway Creek (SV-141) – Aquatic life uses are partially supported based on macroinvertebrate community data. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Broadway Lake – There are three monitoring sites on Lake Broadway and aquatic life and recreational uses are fully supported **at all three** sites (***SV-319, SV-258, SV-321***).

Betsy Creek (SV-037) – Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant decreasing trend in dissolved oxygen concentration. In sediments, diethyl phthalate, di-n-butyl phthalate, and PCB 1248 were detected in the 1996 sample. In the 1997 sediment sample P,P' DDE, a metabolite of DDT, and PCB 1248 and PCB 1260 were detected. PCB 1248 and PCB 1016 were detected in the 1998 sediment sample, and toluene, PCB 1242, and PCB 1254 were detected in the 1999 sample. Although the use of DDT was banned in 1973, and the manufacture and use of PCBs was banned in 1979, they are very resistant to degradation and therefore very persistent in the environment. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentrations.

Cherokee Creek (SV-043) – Aquatic life uses are fully supported. There is a significant increasing trend in pH. A significant increasing trend in dissolved oxygen concentration and significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

Hencoop Creek (SV-044) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Rocky River – There are five monitoring sites along the Rocky River in this watershed. At the furthest upstream site ***(SV-031),*** aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is also a significant decreasing trend in pH. In sediment, di-n-butyl phthalate

was detected in the 1996 sample and PCB 1242 was measured in the 1999 sample. Although the manufacture and use of PCBs was banned in 1979, they are very resistant to degradation and therefore very persistent in the environment. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

Aquatic life uses are fully supported further downstream ***(SV-041***); however**,** there is a significant increasing trend in total nitrogen concentration. A significant increasing trend in dissolved oxygen concentration and a significant decreasing trend in five-day biochemical oxygen demand suggest improving conditions for these parameters. In sediment, di-n-butyl phthalate was detected in the 1996 sample. Recreational uses are partially supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

At the next downstream site ***(SV-346),*** aquatic life uses are fully supported. In sediment, di-n-butyl phthalate was detected in the 1996 sample. Recreational uses are fully supported. Further downstream ***(SV-650),*** aquatic life uses are fully supported based on macroinvertebrate community data.

Aquatic life uses are fully supported at the Rocky River arm site of Lake Russell ***(SV-357)***. Although pH excursions occurred, due to the small sample size, aquatic life uses are considered to be fully supported. Recreational uses are fully supported at this site.

Lake Secession – There are two monitoring sites along Lake Secession. At the uplake site ***(SV-331),*** aquatic life uses are not supported due to total phosphorus and pH excursions. In addition, there is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. In sediment, a high concentration of zinc was measured in the 1996 sample and di-n-butyl phthalate, and P,P'DDD and P,P' DDE, metabolites of DDT, were also detected. PCB 1248 was detected in the 1997 sediment sample and P,P' DDE was also detected in the 1997 and 1999 samples. Although the use of DDT was banned in 1973, and the manufacture and use of PCBs was banned in 1979, they are very resistant to degradation and therefore very persistent in the environment. Recreational uses are fully supported.

At the downlake site ***(SV-332),*** aquatic life uses are fully supported; however, there was a significant increasing trend in total phosphorus. There is also a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. In sediment, high concentrations of chromium, copper, and zinc, and a very high concentration of lead, were measured in the 1996 sample. Di-n-butyl phthalate and P,P' DDE, a metabolite of DDT, were also detected in the 1996 sediment sample. Recreational uses are fully supported.

Natural Swimming Areas

FACILITY NAME	***PERMIT #***
RECEIVING STREAM	***STATUS***
CALHOUN FALLS STATE PARK	01-N04
LAKE RUSSELL	ACTIVE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
BEAVER CREEK WELLINGTON YARNS INC. PIPE #: 001 FLOW: M/R	SCG250006 MINOR INDUSTRIAL
BEAVER CREEK FMR ELISKIM, INC. RCRA POSTCLOSURE PIPE #: 001 FLOW: M/R	SC0047210 MINOR INDUSTRIAL
BEAVER CREEK TRANSCONTINENTAL GAS PIPELINE PIPE #: 001 FLOW: M/R	SCG670006 MINOR INDUSTRIAL
BETSY CREEK OWENS-CORNING/ANDERSON PLT PIPE #: 001 FLOW: M/R	SC0000400 MAJOR INDUSTRIAL
NESBIT CREEK HANSON AGGREGATES SE/ANDERSON PIPE #: 001 FLOW: M/R	SCG730222 MINOR INDUSTRIAL
PEA CREEK VULCAN MATERIALS CO./TRIBBLE QUARRY PIPE #: 001 FLOW: M/R	SCG730112 MINOR INDUSTRIAL
ROCKY RIVER CITY OF ANDERSON/ROCKY RIVER PIPE #: 001 FLOW: 6.1	SC0023744 MAJOR DOMESTIC
LAKE RUSSELL MOHAWK INDUSTRIES/ROCKY RIVER PLT PIPE #: 001 FLOW: M/R	SC0000299 MAJOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
ANDERSON TIRE RECYCLING TIRE RECYCLING	042417-5201; 042417-5301 ACTIVE
OWENS-CORNING FIBERGLAS	043334-1601

INDUSTRIAL	ACTIVE
OWENS-CORNING FIBERGLAS	IWP-036; IWP-015; IWP-240
INDUSTRIAL	INACTIVE
SHAW LCD & YARD TRASH LANDFILL	042698-1701; 042637-1701
LC & D	ACTIVE
MILLER CONSTRUCTION SITE #5	042689-1702
C & D	ACTIVE
SOUTH ANDERSON C&D LANDFILL	----------
C & D	PENDING
WHITE ST. SW TRANSFER FACILITY	041001-6001
TRANSFER STATION	ACTIVE
ANDERSON COUNTY MATERIAL RECOVERY FAC.	041001-2003
RECYLING CENTER	INACTIVE
ACE RECYCLING CENTER	042663-2001
RECYLING CENTER	ACTIVE

Land Application Sites

LAND APPLICATION SYSTEM	***ND#***
FACILITY NAME	***TYPE***
PERCOLATION LAGOON	ND0067067
RIDGECREST SD	DOMESTIC

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
VULCAN CONSTRUCTION CO.	0059-07
TRIBBLE QUARRY	GRANITE
HANSON AGGREGATES SOUTHEAST INC.	0424-07
ANDERSON QUARRY	GRANITE

Water Quantity

WATER USER	***TOTAL PUMP. CAPACITY (MGD)***
STREAM	***RATED PUMP. CAPACITY (MGD)***
CITY OF ABBEVILLE	10.6
LAKE RUSSELL	4.5
MOHAWK INDUSTRIES	4.3
LAKE RUSSELL	1.44

Growth Potential

There is a moderate to high potential for growth in this watershed, which contains the Towns of Antreville, Lake secession, and Lowndesville; portions of the Towns of Calhoun Falls, and Homeland Park; and portions of the Cities of Anderson and Belton. Anderson is currently one of the largest manufacturing areas in the upstate region. Growth of the manufacturing industry is dependent on infrastructural expansion, which is dependent on the capacity of existing facilities. Many wastewater treatment facilities have expanded and are able to support future growth.

Projected industrial development in this watershed runs along the S.C. Hwy 81 corridor from Anderson to Starr, along the western side of Anderson on S.C. Hwy 28, and around the I-85 and S.C. Hwy 81 intersection. Also a rail line runs between Iva and Starr to Anderson, a criterion for siting new industry. Overall development trends are predicted to occur between Belton and Anderson along U.S. Hwy 76, and between Honea Path and Williamston (including Belton) along S.C. Hwy 20. Anderson County is in the process of developing long range plans for growth in this area.

A relatively high growth area lies between the Towns of Lowndesville and Antreville and will be impacted along S.C. 81 by the development in Calhoun Falls, located near the Lake Russell Dam. Calhoun Falls has upgraded their treatment system, replacing the lagoon treatment system, and are better able to support future growth.